

**RESERVOIR CHARACTERISTICS AND
SEDIMENTOLOGY OF THE PIRKOH
LIMESTONE IN MARU WELL 01 CENTRAL
INDUS BASIN PAKISTAN**



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FOR OUR DEAR PARENTS, BROTHERS, SISTERS,
WELL WISHERS AND LOVERS FOR THEIR
MORAL SUPPORT AND CONTRIBUTIONS IN
MAKING OUR EDUCATION A SUCCESS

ABSTRACT

THE PRESENT ACCOUNT OF CORE ANALYSIS IN MARU 1 OIL AND GAS DEVELOPMENT COMPANY LIMITED (OGDCL) LEAD TO THE IDENTIFICATION OF RESERVOIR CHARACTERISTICS (POROSITY AND PERMEABILITY) AND SEDIMENTOLOGY (PETROGRAPHY, MICROPALAEONTOLOGY AND ENVIRONMENT OF DEPOSITION) OF PIRKOH LIMESTONE.

PIRKOH LIMESTONE ENCOUNTERED IN MARU 1 IS OF EOCENE AGE AND CONSISTS OF LIMESTONE. THIN SECTIONS OF 14 SAMPLES WERE PREPARED FOR THEIR DETAILED PETROGRAPHIC STUDIES THAT LEAD TO THE CLASSIFICATION OF PIRKOH LIMESTONE AND ITS ENVIRONMENT OF DEPOSITION, PETROGRAPHY, MICROPALAEONTOLOGY. 30 PLUGS WERE ANALYZED FOR RESERVOIR CHARACTERISTICS I.E. POROSITY AND PERMEABILITY.

ALL THE STUDIED SAMPLES OF PIRKOH LIMESTONE ARE CLASSIFIED AS WACKSTONE, BOUNDSTONE, GRAINSTONE, PACKSTONE CONSISTING OF MICROFOSSILS AND MATRIX AS CEMENTING MATERIAL. IN SOME SAMPLES DISTORTION OF FOSSILS ARE PRESENT. THE ENVIRONMENT OF DEPOSITION IS HIGH ENERGY SHALLOW MARINE.

THE PLUG ANALYSIS INDICATES THAT THE POROSITY IS GOOD TO VERY GOOD (12.20 TO 27.46%) AND PERMEABILITY IS LOW TO FAIR (0.11 TO 6.59 MD). THE REASON OF LOW PERMEABILITY OF SUCH SAMPLES AT CERTAIN INTERVAL COULD BE DUE TO THE ARGILLACEOUS NATURE OF LIMESTONE.

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